

inner side in front and turned upwards; *f*, genital aperture of female; *g*, natural length of spider (♂).

*Fig. 4. Walckenaëra penultima*, sp. n., ♂. *a*, profile of cephalothorax and fore part of abdomen, greatly enlarged; *b*, fore part of caput and eyes, from above and behind; *c*, left palpus, from above and behind; *d*, natural length of spider.

*Fig. 5. Walckenaëra melanocephala*, Cambr. *a*, profile of cephalothorax and abdomen of male, much enlarged; *b*, cephalothorax of male, showing form of caput and eyes, from above and behind; *c*, profile of cephalothorax of female; *d*, eyes and falces of female from in front; *e*, right palpus of male inverted, from outer side in front; *f*, genital aperture of female; *g*, natural length of spider (♂).

*Fig. 6. Walckenaëra mitis*, sp. n., ♀. *a*, profile of cephalothorax and abdomen, much enlarged; *b*, cephalothorax from above and behind; *c*, eyes, from in front; *d*, genital aperture; *e*, natural length of spider.

*Fig. 7. Walckenaëra miser*, sp. n., ♀. *a*, cephalothorax and fore part of abdomen, in profile, much enlarged; *b*, outline of cephalothorax and abdomen, from above; *c*, fore part of caput and eyes, from above; *d*, eyes, from in front; *e*, genital aperture; *f*, natural length of spider.

II.—On *Lepidoptera* collected in Japan and the Corea by Mr. W. Wykeham Perry. By ARTHUR G. BUTLER, F.L.S., F.Z.S.

MR. W. WYKEHAM PERRY, of H.M.S. 'Iron Duke,' has recently sent to the Museum an interesting series of *Lepidoptera* (all, with two exceptions, referable to the *Rhopalocera*), collected by himself in Hakodaté, Yokohama, Kobé, and at Posiette Bay, Corea, during the present year.

Although the species obtained in Japan exhibit the ordinary features of all small collections received from these islands, it is nevertheless interesting to us to obtain, for the first time, specimens from Kobé. But the most important portion of this consignment is the series from Posiette Bay, as giving us some idea of the *Lepidopterous* fauna of the Corea; it represents a combination of Japanese, European, and Chinese features which is most instructive.

If any lepidopterist should assert (upon the authority of specimens not received direct from collectors, but purchased through dealers) that the species of Japan and Amurland are for the most part identical, Mr. Perry's Corean series must present a difficulty to be solved. It contains, in several instances, Japanese and European types of closely allied species side by side; and those forms which are common in Eastern Siberia seem to be equally abundant in N.E

Corea; those forms which have their representatives in Japan are more worn and rubbed than the typical Japanese species occurring with them, thus indicating that their time of emergence from the pupa is earlier. The fresher species are chiefly females, the males having not yet emerged when Mr. Perry left the country.

For my part, knowing that Lepidoptera said to come from the Amur fetch a higher price than their allies from Japan, I should at all times receive with the greatest caution any statement of the identity of specimens the history of which was not beyond all question.

The following is a list of the species:—

### Nymphalidæ.

#### SATYRINÆ.

##### 1. *Satyrus dryas*.

*Papilio dryas*, Scopoli, Ent. Carn. p. 153, fig. 429 (1763).

Posiette Bay, Corea, N.E., August 1881.

##### 2. *Satyrus bipunctatus*.

*Satyrus bipunctatus*, Motschulsky, Etudes Entom. ix. p. 29 (1860).

Hakodaté and Kobé, in July; Yokohama and Posiette Bay, Corea, in August.

##### 3. *Satyrus hyperantus*.

*Papilio hyperantus*, Linnæus, Fauna Suecica, p. 273 (1761).

Posiette Bay, Corea, N.E., August 1881.

##### 4. *Satyrus ocellatus*, sp. n.

♀. Nearly allied to *S. hyperantus*, but with all the ocelli of about three times the size; those on the under surface with confluent irides and oval in form. Expanse of wings 2 inches.

Posiette Bay, Corea.

Although the ocelli in *S. hyperantus* are very variable, this variation is in a decreasing direction from the normal condition; I have never seen them enlarged so as to give the insect the aspect of a *Mycalesis* or *Ypthima*; and therefore I have thought it best to give this form a name.

##### 5. *Neope Fentoni*.

*Neope Fentoni*, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xix. pl. xci. (1877).

♂ ♀. Posiette Bay, Corea.

The male has the under surface of the secondaries coloured exactly as in Ménétriés's figure of the female.

6. *Lethe sicelis*.

*Debis sicelis*, Hewitson, Exot. Butt. iii. *Deb.* pl. i. fig. 3 (1862).

Yokohama, August 1881.

Two very much worn female examples were obtained, proving that its time of appearance must be much earlier in the year.

7. *Sadarga gotama*.

*Mycalesis gotama*, Moore, Cat. Lep. Mus. E. I. Comp. i. p. 232 (1857).

Yokohama, August.

8. *Ypthima argus*.

*Ypthima argus*, Butler, Journ. Linn. Soc. Zool. ix. p. 56 (1866).

Hakodaté (July) ; Yokohama (August).

9. *Melanargia halimede*.

*Arge halimede*, Ménétriés, Bull. Acad. Petr. xvii. p. 216 (1859); Schrenck's Reisen, ii. p. 37, pl. iii. figs. 6, 7 (1859).

Twelve examples, Posiette Bay, N.E. Corea, in August.

Of the specimens obtained nine are perfectly typical; but three (two males and a female) are somewhat melanized, so as to show a tendency to approach the Chinese species *M. meridionalis*; the differences on both surfaces, however, are too strongly marked to permit one for a moment to think of regarding them as truly intermediate forms; they still exhibit the characteristics of *M. halimede*.

NYMPHALINÆ.

10. *Argynnis coreana*, sp. n.

Nearly allied to *A. nerippe* of Felder, but the sexes more equal in size; the black spots on both surfaces of both sexes considerably smaller, those upon the median interspaces of the primaries not quadrate on either surface; ground-colouring paler; male with the thickened sexual patch upon the first median branch very broad and prominent, and the submarginal spots isolated instead of united into a band as on the female; on the under surface also all the spots are smaller, the silvery spots less prominent, and the discal ocelloid spots of the secondaries very small and dull in colouring; the female is altogether duller, has the bases of the wings above of an altogether greener colour, with the black lines on the basal

area thicker, the submarginal pale spots whiter, the secondaries with a black spot on the radial instead of on the subcostal interspace, thus making an uninterrupted series of four spots; the apical area of primaries and the whole ground-colour of the secondaries dull olive-green; the silver spots on the primaries better formed, and those on the secondaries larger than in Yokohama females, although decidedly smaller than in Nikko females of *A. nerippe*. Expanse of wings, ♂ 3 inches, ♀ 3 inches 4 lines.

Two males, Posiette Bay, N.E. Corea; one female, Hakodaté.

The form of this species is somewhat different from that of *A. nerippe* (seven fine examples of which are before me), the wings being somewhat more elongated and the costa of primaries consequently less arched.

#### 11. *Argynnis japonica*.

*Argynnis laodice*, var. *japonica*, Ménétriés, Cat. Acad. Petr. Lep. ii. p. 102, pl. x. fig. 3 (1857).

Six males, Hakodaté; six females, Posiette Bay, Corea.

#### 12. *Argynnis laodice*.

*Papilio laodice*, Pallas, Reise, i. App. p. 470 (1771).

Two males and three females, Posiette Bay, N.E. Corea.

#### 13. *Argynnis rabdia*.

*Argynnis rabdia*, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xix. p. 93 (1877).

Two females, Posiette Bay, N.E. Corea.

#### 14. *Argynnis daphne*, var. *fumida*.

Differs from the European type in its duller and more smoky colouring and larger black spots on both surfaces; it is, however, of the same size, and therefore considerably smaller than *A. rabdia*, from which it differs also in its duller coloration.

Two females, Posiette Bay, N.E. Corea.

We have the male of this form from Yesso.

#### 15. *Brenthis Perryi*, sp. n.

♂. Allied to *B. selene*, but larger, and with all the black markings on both surfaces considerably larger and broader, more like those of *Argynnis oscarus*, the ground-colour richer (but not red as in Eversmann's figure of *A. oscarus*); the silver spots on the under surface more metallic; the apical red-brown patch of the primaries and the two large patches on the apical

and anal areas of secondaries much broader and darker      Ex-  
panse of wings 1 inch 9 lines.

Posiette Bay, N.E. Corea, August.

16. *Limenitis sibilla*.

*Papilio sibilla*, Linnæus, Syst. Nat. 1, ii. p. 781 (1767).

Hakodaté, July.

**Lycænidae.**

17. *Everes hellotia*.

*Lycæna hellotia*, Ménétériés, Cat. Mus. Petr. Lep. ii. p. 124, pl. x. fig. 6 (1857).

Hakodaté and Kobé, July.

18. *Lycæna ladonides*.

*Lycæna ladonides*, De l'Orza, Léop. Jap. p. 20 (1869).

Kobé, July; Yokohama, August.

19. *Lycæna argia*.

*Lycæna argia*, Ménétériés, Cat. Mus. Petr. Lep. ii. p. 125, pl. x. fig. 7 (1857).

Hakodaté and Kobé, July; Yokohama, August.

The specimens, though numerous, were for the most part much worn.

20. *Lycæna ægon*.

*Lycæna ægon*, Denis, Wien. Verz. p. 185 (1776).

One worn female, Posiette Bay, N.E. Corea.

21. *Lycæna lycormas*.

*Polymmatius lycormas*, Butler, Journ. Linn. Soc., Zool. vol. ix. p. 57 (1866).

One worn male, Yokohama, August.

22. *Niphanda fusca*.

♀. *Thecla fusca*, Bremer & Grey, Schmett. N.-China's, p. 9 (1853); Ménétériés, Cat. Mus. Petr. Lep. i. pl. iv. fig. 5 (1855).

♀. *Amblypodia fusca*, Bremer, Bull. Acad. Pét. iii. p. 469 (1861).

♂. *Amblypodia dispar*, Bremer, Lep. Ost-Sibir. p. 24, pl. iii. fig. 4 (1864).

One male, Posiette Bay, Corea.

23. *Chrysophanus timæus*.

*Papilio timæus*, Cramer, Pap. Exot. ii. pl. 186 E F (1779).

Hakodaté and Kobé, in July.

## Papilionidæ.

## PIERINÆ.

24. *Terias suava*.

*Terias suava*, Boisduval, Sp. Gén. i. p. 670 (1836).

One male, Yokohama, in August.

A narrow-winged Chinese species.

25. *Terias Mariesii*.

*Terias Mariesii*, Butler, Trans. Ent. Soc. London, 1880, p. 198.

One female, Yokohama, in August.

It is singular that the rarer sex only of this species should have been obtained.

26. *Terias Hobsoni*.

*Terias Hobsoni*, Butler, Proc. Zool. Soc. 1880, p. 668.

Two females, taken in Yokohama in August.

This species has hitherto only been known to occur in Formosa.

27. *Colias poliographus*.

*Colias poliographus*, Motschulsky, Etudes Entom. ix. p. 29 (1860).

Hakodaté and Kobé, July.

28. *Colias simoda*.

*Colias simoda*, De l'Orza, Léop. Jap. p. 16 (1869).

Hakodaté, in July.

This *Colias* is difficult to separate from the preceding when one has a large series to examine, owing to the tendency to hybridization known to exist between close allies in this genus; typical examples of the two forms are readily recognizable. It is of course possible that *C. poliographus* and *C. simoda* may belong to one variable species; but they must be carefully reared from the egg before one can with fairness assert their identity.

29. *Ganoris crucivora*.

*Pieris brassicæ*, var. *crucivora*, Boisduval, Sp. Gén. i. p. 522 (1836).

A pair taken at Hakodaté in July.

30. *Ganoris dulcinea*, sp. n.

Most nearly allied to *G. megamera* of Japan, but very

distinct. Wings above milk-white, with the veins very slenderly grey, but darker towards the apical margins: primaries with slender black costal margin; the basal two fifths of the costal border irrorated with blackish scales; a pyramidal greyish-brown apical patch, divided by white internervular lines into four decreasing spots; a slightly blacker spot just beyond the middle of the second median interspace; veins at base of all the wings edged with blackish scales: body blue-black; thorax clothed with bluish-grey hairs; abdomen grey at the sides. Under surface milk-white, the wings with dusky veins: primaries with the spot upon the second median interspace nearly as above, but slightly browner; a second larger and oblique spot across the fourth fifth of the interno-median interspace; costal border slightly greyish towards the base; no apical markings: secondaries with the costal border at base slightly tinted with pale buff. Expanse of wings 2 inches 4 lines.

Posiette Bay, N.E. Corea, in August.

This species differs from all its allies in the character of the apical markings of the primaries above.

### 31. *Leptosia amurensis*.

*Leucophasia amurensis*, Ménétriés, Bull. Acad. Pét. xvii. p. 213 (1859); Schrenck's Reisen, ii. p. 15, pl. i. figs. 4, 5 (1859).

Posiette Bay, N.E. Corea, in August.

### 32. *Leptosia Morsei*.

*Leptosia Morsei*, Fenton, Proc. Zool. Soc. 1881.

♀, Hakodaté, in July.

## PAPILIONINÆ.

### 33. *Papilio teredon*.

*Papilio teredon*, Felder, Reise der Nov. Lep. i. p. 61 (1865).

Yokohama, in August.

### 34. *Papilio hippocrates*.

*Papilio hippocrates*, Felder, Verh. zool.-botan. Ges. Wien, xiv. p. 314. n. 356 (1864).

Yokohama, in August.

## Hesperiidæ.

35. *Pamphila venata*.

*Hesperia venata*, Bremer & Grey, Schmett. N.-China's, p. 10 (1853).  
*Pamphila venata*, Ménétriés, Cat. Mus. Petr. Lep. i. pl. v. fig. 7 (1855).

♂, Posiette Bay, Corea, and Yokohama; ♂ ♀, Hakodaté.

36. *Pamphila sylvatica*.

*Pamphila sylvatica*, Bremer, Bull. Acad. Pét. iii. p. 474 (1861); Lep. Ost-Sibir. p. 34, pl. iii. fig. 10 (1864).

Posiette Bay, Corea.

## HETEROCERA.

## Chalceciidæ.

37. *Pidorus atratus*.

*Pidorus atratus*, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 402 (1877); Ill. Typ. Lep. Het. ii. p. 9, pl. xxiii. fig. 9 (1878).

Yokohama, in August.

## Lithosiidæ.

38. *Setina micans*.

*Setina micans*, Bremer & Grey, Schmett. N.-China's, p. 15 (1853).

Posiette Bay, N.E. Corea.

The description by Bremer does not give a good idea of the general colouring of the upper surface; he speaks of it thus, "Corpore et alis ex flavo albido-micantibus," and later on as "shining yellowish white," whereas the primaries are shining white, with pale buff borders, and the secondaries pale buff; the thorax is also white; the head, collar, and abdomen buff. Notwithstanding this incorrect or, at least, imperfect description of the ground-colour, every thing else in the description is so exact that I cannot doubt that the species before me is Bremer's insect. We have a large female ( $1\frac{3}{4}$  inch in expanse) from Pekin.

III.—On certain remarkable Modifications of the Avicularium in a Species of Polyzoan; and on the Relation of the Vibraculum to the Avicularium. By the Rev. THOMAS HINCKS, B.A., F.R.S.

THE homology between the curious avicularian appendage which is present on so many of the Cheilostomata and the